Ground Water Monitoring Workshop sponsored by Maryland Water Monitoring Council

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MWMC sponsored a Workshop on Thursday June 13, 2002 on Long-Term Ground Water Level Monitoring in Maryland. This workshop was held at the U.S.G.S. office on Yellow Brick Road and there was a capacity audience at a fee of $20 each. We had between 75 and 80 people.

The morning session had welcoming remarks by Bill Stack, a keynote address by Dr. Emery Cleaves, description of the current state-wide network and applications of long-term ground water level data from the perspective of MDE, MGS, and Montgomery County.

After lunch there were 5 breakout sessions, 3 on priority goals and 2 on sharing data. There was a summary of the breakout sessions and a call for volunteers to form a committee to continue with the items mentioned in the breakout sessions. The First meeting will be at MDE on Tuesday July 9, 2002.

All of the groups came up with similar lists of what is needed. Some of the goals were to preserve existing networks, needing long term trends, spatial representation, i.e., land-use changes, determining long term local and regional impacts of current and future water uses and climatic variation, educating the public and legislators on why this system is needed and an all-inclusive data bank.

The St. Mary's River Project

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For the last three years faculty and students at St. Mary's College of Maryland have been working on the St. Mary's River Project (SMRP), a federally funded study of the St. Mary's River, the site of Maryland's first capital and the fourth permanent settlement in British North America. The primary goal of SMRP is to provide water quality information for both the non-tidal watershed and tidal river that can be used for the protection, restoration and management of this historic and ecologically important river in the face of rapid growth and development in the watershed. Currently, 15 non-tidal stations and 10 tidal stations are routinely monitored following the Chesapeake Bay Program monitoring schedule for the lower Potomac River. Physical and chemical parameters are measured at each station, and biological characteristics are surveyed in both the watershed (aquatic insects- benthic macroinvertebrates- and fish) and the tidal river (submerged aquatic vegetation-SAV).

SMRP also sponsors research projects examining environmental and ecological questions related to the St. Mary's River system. These projects, which are largely collaborations between St. Mary's College biology faculty members and students, have included studies of the effects of land use and storm events on water quality and biological diversity, on ecological aspects of SAV (focusing largely on the restoration of specific species to the St. Mary's River), on bacteria in the river sediments and water column, and on oyster spat fall and survival.

Increasing public awareness of the ecological health of the St. Mary's River and building a sense of stewardship for the river is another priority for SMRP. To reach this goal St. Mary's College students teach an outreach program in several local schools, providing elementary school students with increased awareness and appreciation of their environment.

Results of SMRP so far indicate that with the exception of oxygen levels in the deep water of the tidal river, the St. Mary's River and watershed generally have good overall water quality as indicated by measures of physical, chemical and biological parameters. An indication of good water quality has been a dramatic increase in SAV in the tidal river over the course of the project. However, there are clear signs that the river is in trouble and that in a high discharge year, the water quality will deteriorate, degrading habitat and stressing estuarine organisms of both the watershed and estuary. These signs include rapid increases in watershed discharge and sediment loads in response to rain events, hypoxic and anoxic bottom waters in the estuary during the spring and summer, and deterioration of water quality at upstream tidal stations during storm events.
To find out more about the St. Mary's River Project or about water quality of the St. Mary's River, log on to our website (www.smcm.edu/smrp).

An Overview of the Methods and Data Comparability Board

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The Methods and Data Comparability Board (Methods Board), is a partnership of water-quality experts from Federal agencies, States, Tribes, municipalities, industry, and private organizations who all share a commitment to developing water-quality monitoring approaches that facilitate collaboration and comparability amongst all data-gathering organizations. Both the Methods Board, and its parent organization, the National Water Quality Monitoring Council (National Council) are co-chaired by USGS and USEPA and are Workgroups of the Advisory Committee on Water Information (ACWI). ACWI is chartered under the Federal Advisory Committee Act (FACA).

The National Council and the Methods Board are charged with developing a voluntary, integrated, and nationwide water quality monitoring strategy based on a framework of collaboration and comparability. To do this, the Council and Board must build and

support creative partnerships among the many elements of the monitoring community, particularly by supporting the development and work of state and regional monitoring councils—like the Maryland Water Monitoring Council.
The Board's guiding philosophy is to develop products in the short term while thinking and planning strategically in the long-term. Through inclusion, sound science, and consensus, the Methods Board identifies, examines, recommends, and fosters monitoring approaches that enhance our ability to achieve real environmental gains while "working smarter, not harder."

One of the Board's products is NEMI—the National Environmental Methods Index. NEMI is a free, web-based online clearinghouse of environmental monitoring methods. NEMI's database contains method summaries of laboratory and field protocols for regulatory and non-regulatory related water quality analyses. By visiting www.nemi.gov users can access up-to-date methods information through a standard Internet connection and browser. NEMI users can compare methods at a glance, find the method that best meets their needs, and share monitoring data among different agencies who have used different methods at different times.

The Board is also developing a list of water quality data elements (WQDE) the "core metadata" necessary to allow comparability assessments. The list proposed is not a set of required information, rather, it is intended as a means to help data collectors more easily consider the most important water-quality data elements needed to assess data comparability. The list has been developed in conjunction with numerous Local, State, Federal, and private sector water-quality sampling entities to assure that the use of the data elements listed are compatible with the majority of existing databases.

Other current areas of focus for the Board are field certification and laboratory accreditation, performance-based systems, nutrients, biology and new technologies. The continued success of the Council and the Board is dependent on active participation from a wide-variety of water resource professionals. We welcome members of the MWMC to learn more about the Board and to become active members of the Board's workgroups. To learn more about the Methods Board, visit our website at http://wi.water.usgs.gov/methodsboard.

Save Our Streams Volunteer Monitoring Program

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Volunteer monitoring, be it for water quality testing, sediment control compliance on construction sites or searching for potential pollution sources within the watershed has been a major factor in keeping Maryland's waterways clean. Volunteers are eager to learn about the health of their neighborhood streams and how to maintain their health. In

addition, volunteers are able to be constant “watchdogs” for waterways they see every day.

For the past three decades, Save Our Streams has partnered with county, city, and state government agencies and private organizations to support a growing network of volunteer monitors dedicated to the health of Maryland’s waterways. Each year, Save Our Streams volunteers contribute 90,000 hours of labor to maintain and improve the health of our streams and rivers.

One of Save Our Streams’ most successful programs, Project Heartbeat, was developed specifically with volunteers in mind. The Project Heartbeat methods and training programs for citizen allows them to conduct biological water quality monitoring with the scientific specificity of professional biologists. This program has two separate volunteer opportunity components: collecting macroinvertebrates from local waterways using Environmental Protection Agency protocols and laboratory identification of the collected macroinvertebrates. The data collected by Save Our Streams volunteers is used by local and state agencies to track trends and conduct impact studies on Maryland streams.

Save Our Streams supports citizen watershed groups, individuals, and community organizations and works to develop organized watershed groups in areas that currently do not yet have organized constituents. These watershed groups strive to maintain the health of waterways within their basins through water quality monitoring, tree plantings, bank improvements, and stream surveys.

Following in the Save Our Streams tradition, watershed groups and interested individuals from across the state were invited to attend the “Path to Power River Basin Conference” focused on combining efforts of citizen watershed groups throughout Maryland. This conference was held in June and representatives from Baltimore County, Baltimore City, Montgomery County, Frederick County, St. Mary’s County, and Harford County attended. The conference expanded the volunteer leadership and partnership of citizens across the state to preserve, protect, and restore Maryland’s 17,000 miles of rivers and streams.